



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In r Application of :  
Masatoshi YOKOTA :  
Serial No. 09/276,716 :  
Filed March 26, 1999 :  
THREE-PIECE SOLID GOLF BALL :

#17  
9/3/02  
1C

## DECLARATION

I, Akira KATO, working for Sumitomo Rubber Industries, Ltd.  
located at C/O 6-9, Wakinohama-cho 3-chome, Chuo-ku, Kobe-shi, Japan,  
declare and say as follows:

1. I am one of the co-workers of the inventors of the above-identified application.
2. In 1992, I was graduated from Kyushu University and received a Bachelor's degree in Engineering from said University.
3. Since 1992 to the present time, I have been employed by Sumitomo Rubber Industries, Ltd. as a researcher. I have been engaged in researches of material for golf balls. I have filed more than forty patent applications regarding golf balls, especially materials for golf ball, in U.S.A. as an inventor, and received patent rights therefrom. I have enough technical knowledge about rubbers for golf balls.
4. With respect to the above-identified application, some experiments were carried out under my direction and supervision, and I beg to submit herewith the exact report thereon.

EXPERIMENTS

In the experiment, the core I for C5 of Table 3 of the Asakura reference (USP 5,730,664), and the core of the Moriyama reference (USP

5,713,802) were prepared and subjected to a measurement of JIS-C hardness, and deformation amount.

The formulation shown in the following Table 1 were kneaded and vulcanized in a spherical mold to obtain a core. The vulcanization condition was conducted two stages as described in Table 1. The results of the measurement are shown in Table 1.

Table 1

|                                     | Comparative Example 5<br>of the Asakura reference | The Moriyama reference       |
|-------------------------------------|---|------------------------------|
| Ingredients                         |   |                              |
| Cis-1,4-polybutadiene               | 100   | 100                          |
| Zinc acrylate                       | 22  | 26                           |
| Zinc oxide                          | 17.6  | 29.9                         |
| Antioxidant                         | 0.5   | 0.5                          |
| Dicumyl peroxide                    | 1.6   | 2.0                          |
| Diphenyl disulfide                  | 0.5   | -                            |
| Balnoc R                            | -   | 0.5                          |
| Vulcanization condition             | 140 °C X 16 minutes +<br>165 °C X 8 minutes       | 145 °C X <u>35</u> minutes * |
| Core diameter (mm)                  | 35.1  | 35.5                         |
| Deformation amount<br>(10K - 130 K) | 4.9   | 4.2                          |
| Hardness (JIS-C)                    |   |                              |
| Center                              | 60  | 68                           |
| 5 mm from the center                | 64  | 71                           |
| 10 mm from the center               | 67  | 73                           |
| 15 mm from the center               | 70  | 77                           |
| Surface                             | 70  | 75                           |
| Hardness difference                 | <u>10</u>   | <u>9</u>                     |

\* In the previously filed Declaration, the time period was written 30 minutes, but it was mistyped and is correctly 35 minutes.

**CONCLUSION**

As is apparent from the above results, the cores of the Asakura and Moriyama references have hardness difference outside the range of the present invention.

5. It is declared by undersigned that all statements made herein of undersigned's own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S. Code 1001 and that such willful false statements may be jeopardize the validity of this application or any patent issuing thereon.

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Akira KATO

Dated this            th day of            , 2002